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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,451	01/03/2002	Masaya Okita	Soyu C4B	8378

7590 09/23/2004
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EXAMINER

NELSON, ALECIA DIANE

ART UNIT PAPER NUMBER

2675

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,451

Applicant(s)

OKITA, MASAYA

Examiner

Alecia D. Nelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 08/807,833.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2,3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 3/18/02 and 5/16/02 have been considered by the examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. (U.S. Patent No. 4,795,239)

With reference to **claims 1, 7, 13, 17, 19, 25 and 27** Yamashita et al. teaches a system for driving a liquid crystal in a liquid crystal display device in which a first means applies a sequence of selection pulses to the common electrode (see common opposite electrode Vito), a second means, responsive to the selection pulse, applying to the segment electrode a voltage corresponding to image data to be displayed (see source voltage Sm' beginning at the same time as the gate pulse (G1') from the previous horizontal scanning interval and extending to the point where the gate pulse (G2') of the current horizontal scanning pulse begins); wherein a second voltage of a constant value

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independent from the image data to the segment electrode in intervals where the selection pulses are not applied (see Sm', beginning at the end of the voltage corresponding to the image data and ends where the gate pulse (G2') begins (see Figure 2). Yamashita et al. also discloses that the display has electro-optical characteristics of the liquid crystal, which is substantially linear (see Figure 6). With further reference to **claim 13**, the voltage applied for displaying black to the segment electrode is the same as the second voltage, as explained above. With the second voltage being applied at intervals where the voltage corresponding to the image data is applied, the second voltage will display black to the segment electrode being that it is a non-displaying voltage. With further reference to **claims 17 and 19**, the unit periods would refer to the horizontal scanning interval as disclosed by Yamashita et al., wherein the periods are repeated and the first time zone being the duration of the applied voltage corresponding to the image data and the second voltage being the duration of the voltage applied in intervals where the image data is not applied. The first and second time zones are included in each unit period and the unit periods remain constant (see Figure 2).

While teaching that the driving scheme is carried out in a liquid crystal display, Yamashita et al. fails to specifically teach that a nematic liquid crystal is confined between a common electrode and a segment electrode that are placed between two polarizing plates. However, such structure is well known and conventional in the art.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to use a nematic type liquid crystal in the active matrix liquid crystal display device as taught by Yamashita et al., being that the structure of such a nematic liquid crystal display is very common in liquid crystal display devices. This would thereby provide a system for driving a liquid crystal display panel with improve driving speed and better picture quality.

With reference to **claims 2 and 8**, Yamashita et al. teaches that the voltage corresponding to the image data and the voltage applied during intervals where the image data is not applied are switched in response to intervals of the gate pulses which are switched in response to the selection pulses (see Figure 2).

With reference to **claims 3, 4, 9, and 10**, Yamashita et al. teaches the usage of an inverter (3) wherein it can be seen that the image data voltage and the voltage applied in the intervals where the image data voltage is not applied inverted (see Figure 2).

With reference to **claims 5, 6, 11, 12, and 14**, while Yamashita teaches all that is required as explained above there fails to be teachings concerning a means for heating the liquid crystal to a predetermined temperature. However the usage of a heating means in liquid crystals are conventional in the art.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to include a heating means for regulating the temperature of the liquid crystal, as well known in the art, to be used in the display device similar to that which is taught by Yamashita et al. to thereby prevent the temperature of the liquid crystal to remain at a temperature that will allow for the best response time when generating the images. This would thereby improve the driving speed and the picture quality of the display.

With reference to **claim 15, 28, and 29** Yamashita et al. teaches that the matrix liquid crystal panel is a TFT liquid crystal panel (see Figure 1). While teaching the usage of an active matrix liquid crystal panel it would be obvious to one having ordinary skill in the art to allow the driving method to be carried out in a simple matrix LC panel wherein the LC panel contain the drivers necessary for driving the pulses as explained in the teachings of Yamashita et al.

With reference to **claims 16 and 18**, Yamashita et al. discloses that the display has electro-optical characteristics of the liquid crystal, which is substantially linear (see Figure 6).

With reference to **claim 20-24 and 26**, the voltage applied for erasing, displaying black, or returning to a predetermined state to the segment electrode is the same as the second voltage, as explained above. With the second voltage being applied at intervals where the voltage corresponding to the image data is

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applied, the second voltage will display black to the segment electrode being that it is a non-displaying voltage. This thereby erasing the image on the panel or returning the liquid crystal to a predetermined state (non-display state).

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. **Claims 1-29** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,154,191 (hereinafter '191) and claims 1-4 of U.S. Patent No. 6,424,329 (hereinafter '329). Although the conflicting claims are not identical, they are not patentably distinct from each other because The subject matter claim in **claims 1-15, 17, 19, 25, 27, and 28** of the instant application is fully disclosed in claims 1-4 of patent '191, and the subject matter in **claims 1, 7, 13, 17, 19, 25, and 27** of the instant application is fully disclosed in claims 1-4 of patent '329 claiming the common subject matter as follows, a system for driving a simple

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matrix nematic liquid crystal in a liquid crystal display device comprising means for applying a sequence of selection pulses to the common electrode, means responsive to the selection pulses to apply to the segment electrode a voltage having a value corresponding to image data to be displayed, and means for changing the value of the voltage applied to the segment electrode during intervals where the selection pulses are not applied so that the value thereof is different from the value corresponding to the image data. .Even though the independent claims of the instant application uses different claim language that that of the patent, the claims of the instant application as stated above, and the patents contain common patentable subject matter.

Claims 18, 20-24, and 26 are rejected for being dependent on a rejected base claim.

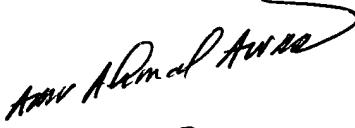
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is (703) 305-0143. The examiner can normally be reached on Monday-Friday 9:30-6:00. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

adn/ADN
September 20, 2004


AMR A. AWAD
PRIMARY EXAMINER